

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P332377-930

Luminaire Tested: **S123RDIP-S1165D805U930-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332377-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123RDIP-S1165D805U930-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5941.3 lumens  
Efficiency: N/A  
Efficacy: 97.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Direct

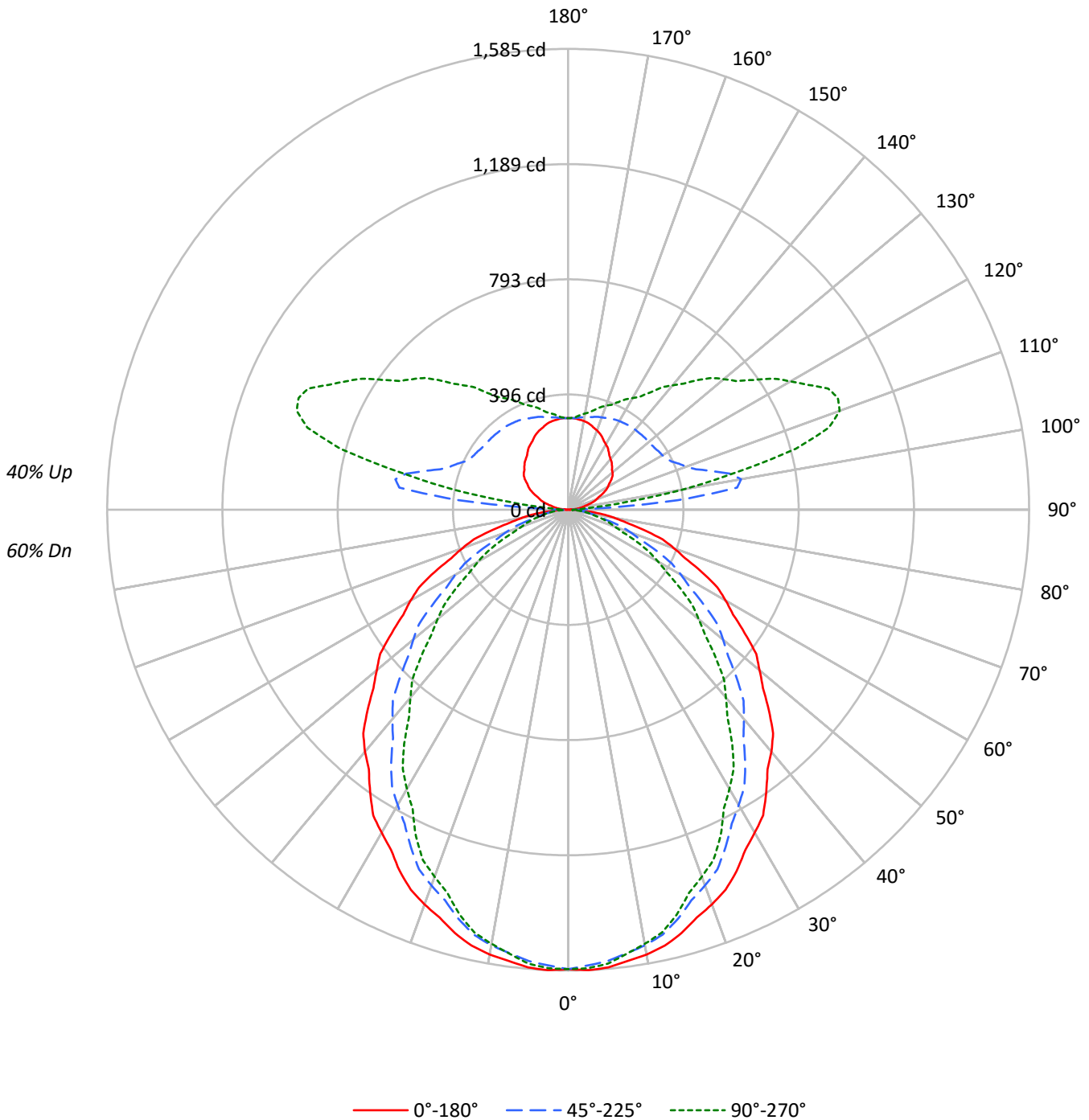
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	110	110	110	110	102	102	102	102	89	89	89	77	77	77	65	65	65	60
1	100	96	92	89	94	90	87	84	79	76	74	68	66	65	58	57	56	51
2	92	84	78	73	86	79	74	69	69	65	62	60	57	55	52	50	48	44
3	84	75	67	62	78	70	64	58	62	57	52	54	50	47	46	44	41	37
4	77	66	58	52	72	62	55	50	55	49	45	48	44	40	42	38	36	32
5	71	59	51	45	66	56	49	43	49	44	39	43	39	35	38	34	31	28
6	65	53	45	39	61	50	43	38	45	39	34	39	35	31	34	31	28	25
7	61	48	40	35	57	46	38	33	41	35	30	36	31	28	31	28	25	22
8	56	44	36	31	53	42	35	30	37	31	27	33	28	25	29	25	22	20
9	53	40	33	28	49	38	31	27	34	29	25	30	26	22	27	23	20	18
10	49	37	30	25	46	35	29	24	32	26	22	28	24	20	25	21	19	17

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	17009	17009	17009
5°	17074	16839	16935
10°	16978	16628	16571
15°	16796	16238	16067
20°	16544	15753	15385
25°	16286	15206	14719
30°	15945	14574	13779
35°	15594	13943	12917
40°	15271	13200	11849
45°	14846	12466	10886
50°	14380	11632	9808
55°	13902	10678	8801
60°	13464	9657	7698
65°	12893	8550	6594
70°	12180	7179	5325
75°	11137	5648	5011
80°	9930	5002	4612
85°	8386	4434	4113



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.4	2.5
10°-20°	412.9	6.9
20°-30°	594.5	10.0
30°-40°	669.6	11.3
40°-50°	640.6	10.8
50°-60°	524.6	8.8
60°-70°	354.0	6.0
70°-80°	178.1	3.0
80°-90°	49.6	0.8
90°-100°	175.2	2.9
100°-110°	496.2	8.4
110°-120°	488.1	8.2
120°-130°	389.3	6.6
130°-140°	307.0	5.2
140°-150°	229.1	3.9
150°-160°	159.7	2.7
160°-170°	93.8	1.6
170°-180°	30.5	0.5
0°-30°	1155.7	19.5
0°-40°	1825.4	30.7
0°-60°	2990.6	50.3
0°-90°	3572.2	60.1
90°-120°	1159.6	19.5
90°-150°	2085.0	35.1
90°-180°	2369.0	39.9
0°-180°	5941.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1580	1580	1580	1580	1580	
5°	1580	1573	1558	1569	1567	150
15°	1507	1492	1457	1451	1442	424
25°	1371	1338	1280	1254	1239	630
35°	1187	1139	1061	1008	983	742
45°	975	915	819	748	715	752
55°	741	675	569	497	469	664
65°	506	434	336	276	259	501
75°	268	206	136	124	120	286
85°	68	41	36	33	33	76
90°	1	8	16	18	18	5
95°	22	70	378	110	74	23
105°	74	109	512	896	811	79
115°	131	163	392	860	986	129
125°	182	214	366	663	778	161
135°	213	254	361	546	630	164
145°	243	278	356	448	493	152
155°	276	298	345	392	408	127
165°	302	310	330	350	356	85
175°	314	315	317	321	321	30
180°	315	315	315	315	315	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1585.3	1584.4	1583.5	1582.6	1581.7	1579.8	1577.1	1574.3	1571.7	1568.9	1571.4
5°	1580.2	1578.7	1577.4	1575.9	1574.5	1572.1	1568.6	1565.2	1561.8	1558.4	1561.0
7.5°	1565.5	1564.1	1562.5	1561.0	1559.4	1556.4	1552.0	1547.5	1543.1	1538.6	1540.1
10°	1553.3	1551.3	1549.3	1547.3	1545.3	1541.7	1536.6	1531.5	1526.3	1521.3	1521.5
12.5°	1535.9	1533.7	1531.4	1529.2	1527.0	1522.7	1516.5	1510.2	1503.9	1497.6	1497.5
15°	1507.2	1504.0	1500.9	1497.7	1494.6	1489.1	1481.1	1473.1	1465.1	1457.2	1455.7
17.5°	1471.0	1467.4	1463.7	1460.0	1456.5	1449.5	1439.4	1429.2	1419.1	1409.0	1406.0
20°	1444.3	1439.8	1435.3	1430.7	1426.1	1418.5	1407.6	1396.8	1385.9	1375.2	1371.4
22.5°	1414.6	1409.3	1404.1	1398.9	1393.7	1385.3	1373.8	1362.3	1350.8	1339.2	1334.6
25°	1371.3	1364.2	1357.1	1349.9	1342.8	1332.7	1319.6	1306.5	1293.4	1280.3	1274.3
27.5°	1318.7	1310.9	1303.0	1295.2	1287.3	1276.1	1261.5	1246.9	1232.3	1217.7	1209.4
30°	1282.9	1274.3	1265.8	1257.2	1248.7	1236.4	1220.5	1204.5	1188.6	1172.6	1162.9
32.5°	1247.0	1237.3	1227.6	1217.9	1208.3	1195.0	1178.1	1161.2	1144.4	1127.6	1117.0
35°	1186.7	1176.5	1166.2	1156.0	1145.7	1131.8	1114.1	1096.5	1078.8	1061.1	1048.9
37.5°	1125.8	1114.4	1102.9	1091.5	1080.2	1065.0	1046.2	1027.4	1008.5	989.6	975.8
40°	1086.8	1074.2	1061.7	1049.2	1036.7	1020.3	1000.0	979.8	959.6	939.4	924.5
42.5°	1042.7	1030.1	1017.7	1005.1	992.5	975.8	955.0	934.0	913.1	892.3	876.0
45°	975.3	962.5	949.7	936.9	924.0	906.6	884.7	862.7	840.8	818.9	802.7
47.5°	907.8	893.8	879.7	865.7	851.6	833.6	811.6	789.7	767.8	745.9	728.2
50°	858.7	845.3	831.8	818.5	805.1	786.9	763.9	740.8	717.7	694.6	676.9
52.5°	814.6	800.1	785.5	771.0	756.4	737.8	714.9	692.1	669.3	646.5	628.1
55°	740.8	726.8	712.8	698.9	684.9	665.9	641.6	617.4	593.2	569.0	552.5
57.5°	672.5	657.4	642.1	627.0	611.7	592.0	567.7	543.3	519.0	494.7	479.1
60°	625.4	609.8	594.1	578.5	562.7	543.1	519.4	495.9	472.2	448.6	433.2
62.5°	578.2	562.6	546.9	531.2	515.6	495.9	472.3	448.7	425.0	401.4	386.9
65°	506.2	490.6	474.9	459.3	443.6	424.6	402.4	380.2	358.0	335.7	321.8
67.5°	434.2	418.3	402.5	386.7	370.9	352.3	331.0	309.7	288.4	267.1	256.7
70°	387.0	371.7	356.3	340.9	325.5	307.9	288.0	268.0	248.1	228.1	218.2
72.5°	339.9	324.7	309.6	294.4	279.2	262.6	244.5	226.4	208.3	190.2	182.1
75°	267.8	254.2	240.5	226.8	213.2	198.5	182.9	167.1	151.5	135.8	133.0
77.5°	202.2	189.9	177.5	165.2	152.8	141.5	131.5	121.4	111.3	101.3	99.7
80°	160.2	148.5	136.8	125.1	113.5	104.7	98.7	92.7	86.7	80.7	79.9
82.5°	120.2	110.1	100.0	89.9	79.9	73.5	70.7	67.8	65.1	62.3	61.4
85°	67.9	61.6	55.4	49.2	42.9	39.3	38.5	37.6	36.8	35.9	35.3
87.5°	24.9	22.6	20.4	18.3	16.0	15.0	15.3	15.7	16.1	16.6	16.1
90°	1.3	2.5	3.8	5.7	7.0	8.3	10.2	12.1	14.0	15.9	15.3
92.5°	7.9	11.7	17.1	22.1	27.4	36.9	53.6	81.0	107.9	98.0	73.9
95°	21.7	23.6	30.6	41.4	58.0	82.8	137.1	232.0	336.6	378.0	306.6
97.5°	36.9	37.6	43.1	52.5	68.8	95.7	147.5	254.6	428.8	585.8	626.7
100°	47.2	47.8	52.3	61.2	76.5	101.3	145.9	240.3	408.0	603.6	729.2
102.5°	57.9	59.0	62.9	71.4	85.2	107.9	148.0	228.0	377.3	570.5	734.3
105°	73.9	75.8	79.7	87.3	99.5	119.2	153.6	219.2	339.7	512.5	695.5
107.5°	91.0	92.9	96.6	104.1	115.5	133.9	164.0	218.7	315.8	461.2	627.4
110°	103.3	105.2	108.4	115.4	126.2	144.1	172.8	221.2	306.6	432.2	584.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	114.5	116.4	119.6	126.6	137.5	154.7	181.4	226.2	301.5	412.8	547.3
115°	130.7	133.2	137.1	143.4	154.3	171.5	195.7	234.6	299.6	392.0	502.3
117.5°	146.8	149.8	153.0	158.8	171.0	186.9	210.8	245.6	300.8	379.8	475.2
120°	158.1	160.0	163.1	169.6	181.6	197.6	220.5	253.7	302.8	374.1	460.9
122.5°	167.8	169.7	172.8	179.8	191.4	208.3	230.7	261.3	306.3	370.6	449.1
125°	181.6	183.0	186.8	193.8	205.9	223.1	245.4	273.5	311.7	365.9	434.1
127.5°	192.2	194.1	198.9	206.0	219.4	236.6	258.1	283.4	317.8	363.6	420.9
130°	198.9	200.8	206.5	214.2	227.6	244.8	265.8	290.0	321.9	362.1	413.7
132.5°	204.0	206.4	212.6	221.8	235.2	251.9	272.4	296.1	325.0	361.5	407.1
135°	212.9	215.5	222.5	232.0	245.4	262.6	282.3	304.0	329.5	360.8	398.4
137.5°	221.3	224.0	230.9	241.1	254.3	270.3	289.3	309.9	332.6	359.4	390.9
140°	226.9	230.1	236.5	246.7	259.4	275.3	293.8	313.0	334.7	358.9	386.3
142.5°	233.0	235.7	242.6	251.8	264.6	279.4	297.4	316.0	336.1	357.8	382.2
145°	242.9	244.8	250.5	260.1	270.9	285.6	302.1	319.4	337.2	356.3	376.7
147.5°	252.8	254.0	259.6	267.8	278.3	290.8	306.0	321.4	337.2	353.9	371.4
150°	259.4	260.1	265.1	273.5	282.3	293.8	308.5	321.9	337.2	351.9	367.8
152.5°	266.0	266.2	271.3	278.6	286.4	297.4	310.1	322.9	335.7	349.3	363.7
155°	276.0	276.0	279.8	286.2	293.2	302.1	313.0	323.2	334.0	344.9	357.6
157.5°	283.9	284.4	287.5	293.1	299.1	306.0	314.6	323.8	331.8	340.9	350.7
160°	290.0	290.0	292.6	297.7	302.1	308.5	316.2	323.8	330.8	337.9	346.1
162.5°	294.6	294.6	296.7	300.8	304.7	310.1	316.7	323.3	328.8	334.8	341.5
165°	301.5	300.8	302.1	305.3	307.9	312.3	317.4	321.9	325.7	330.2	335.3
167.5°	306.7	306.0	306.6	309.0	310.8	313.6	317.3	320.9	322.7	325.6	329.3
170°	309.8	308.5	309.2	311.0	312.3	313.6	316.8	319.4	320.7	322.5	325.7
172.5°	311.9	311.0	311.2	312.6	313.3	314.1	316.8	318.9	319.1	320.0	322.1
175°	314.2	313.6	313.0	314.2	314.2	314.9	316.2	317.4	316.8	316.8	318.0
177.5°	315.4	314.9	314.4	314.9	314.9	314.9	315.4	316.4	315.4	314.9	315.4
180°	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1573.9	1576.5	1578.9	1580.0	1579.5	1579.1	1578.6	1578.1
5°	1563.5	1566.1	1568.6	1569.6	1569.0	1568.5	1567.9	1567.3
7.5°	1541.5	1543.0	1544.3	1544.6	1543.6	1542.6	1541.6	1540.7
10°	1521.8	1522.1	1522.4	1521.8	1520.4	1519.0	1517.5	1516.1
12.5°	1497.3	1497.1	1497.0	1496.1	1494.4	1492.7	1491.1	1489.5
15°	1454.3	1452.9	1451.5	1449.8	1447.7	1445.8	1443.7	1441.8
17.5°	1403.0	1399.9	1396.9	1393.9	1390.9	1388.0	1385.0	1382.0
20°	1367.7	1364.0	1360.3	1356.7	1353.3	1349.9	1346.5	1343.1
22.5°	1330.0	1325.4	1320.8	1316.9	1313.7	1310.5	1307.3	1304.2
25°	1268.4	1262.3	1256.4	1251.8	1248.7	1245.5	1242.4	1239.3
27.5°	1201.1	1192.8	1184.5	1177.9	1173.1	1168.4	1163.6	1158.8
30°	1153.2	1143.6	1133.9	1126.8	1122.3	1117.7	1113.1	1108.6
32.5°	1106.4	1095.8	1085.2	1077.5	1072.7	1067.9	1063.2	1058.3
35°	1036.7	1024.4	1012.2	1003.5	998.3	993.2	988.1	983.0
37.5°	961.8	947.9	934.0	923.9	917.6	911.3	905.0	898.6
40°	909.8	895.0	880.2	869.5	862.9	856.4	849.9	843.3
42.5°	859.9	843.7	827.5	816.5	810.7	804.8	798.9	793.0
45°	786.4	770.2	754.0	742.5	735.6	728.8	721.9	715.1
47.5°	710.5	692.9	675.2	663.4	657.3	651.2	645.1	639.0
50°	659.3	641.6	623.9	611.9	605.4	598.8	592.2	585.7
52.5°	609.8	591.4	573.1	560.9	555.1	549.3	543.4	537.5
55°	536.0	519.4	503.0	491.9	486.2	480.5	474.7	469.0
57.5°	463.5	447.8	432.3	422.0	417.2	412.4	407.5	402.7
60°	417.8	402.4	387.0	376.9	372.1	367.2	362.4	357.6
62.5°	372.4	358.0	343.5	333.8	328.6	323.6	318.5	313.5
65°	307.9	293.9	280.0	271.4	268.3	265.1	262.0	258.9
67.5°	246.2	235.8	225.3	218.5	215.2	211.7	208.4	205.0
70°	208.1	198.2	188.3	181.7	178.6	175.5	172.3	169.2
72.5°	173.9	165.8	157.6	152.9	151.6	150.3	149.0	147.7
75°	130.1	127.3	124.4	122.8	122.2	121.6	121.1	120.5
77.5°	98.2	96.6	95.1	94.0	93.4	92.9	92.3	91.7
80°	79.0	78.2	77.3	76.6	76.1	75.5	74.9	74.4
82.5°	60.6	59.8	58.9	58.4	58.3	58.1	58.0	58.0
85°	34.7	34.2	33.6	33.3	33.3	33.3	33.3	33.3
87.5°	16.1	16.0	15.9	15.9	15.5	15.4	15.3	15.0
90°	15.9	16.6	17.2	18.5	17.9	18.5	19.2	18.5
92.5°	53.6	42.6	37.6	34.3	33.2	31.2	31.9	30.7
95°	229.5	155.6	121.7	98.8	86.7	81.0	76.5	73.9
97.5°	572.0	458.2	375.9	299.7	252.7	224.0	206.8	201.3
100°	751.5	699.9	625.3	534.8	470.4	423.9	399.0	399.7
102.5°	811.1	809.5	766.1	708.7	658.6	621.7	601.0	586.3
105°	828.7	892.3	904.5	887.9	858.6	834.4	814.0	810.8
107.5°	778.4	881.9	937.8	960.4	961.0	952.8	945.9	940.0
110°	730.5	847.7	928.1	972.7	990.5	995.6	994.3	993.1





TEST NUMBER: P332377-930

CATALOG NUMBER: S123RDIP-S1165D805U930-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	683.1	802.9	892.9	950.2	982.9	998.7	1003.6	1003.8
115°	620.2	731.1	824.8	894.3	942.1	970.1	982.9	986.1
117.5°	574.7	670.4	754.6	825.1	874.9	907.0	925.4	929.8
120°	550.7	636.7	713.3	777.6	828.0	863.7	879.0	882.8
122.5°	531.9	609.8	680.6	740.5	785.1	817.3	834.1	838.9
125°	506.7	576.3	637.4	688.4	729.2	757.2	773.1	777.6
127.5°	484.9	546.7	602.0	648.4	684.7	708.7	723.1	727.2
130°	471.1	528.4	580.1	623.4	657.2	680.1	693.5	698.6
132.5°	458.3	511.1	559.1	600.5	632.2	655.2	667.0	670.6
135°	441.1	486.3	527.7	564.1	595.3	614.5	625.9	630.4
137.5°	425.4	462.5	498.2	529.7	556.0	575.4	585.1	588.0
140°	416.2	448.7	479.3	506.7	531.0	548.8	559.1	558.4
142.5°	407.6	435.5	462.0	485.8	506.5	522.3	531.5	530.8
145°	397.1	418.2	438.5	457.1	473.0	486.3	491.5	492.7
147.5°	388.6	405.3	421.8	434.9	446.9	456.0	460.9	461.4
150°	382.5	397.1	410.5	422.6	432.2	439.2	443.0	443.0
152.5°	376.8	389.5	401.3	411.4	418.9	425.4	427.7	427.7
155°	368.4	378.6	388.2	395.8	401.5	406.7	408.0	408.5
157.5°	359.5	368.0	375.4	381.4	386.4	390.2	391.3	391.1
160°	354.4	361.4	367.8	372.3	376.7	380.5	380.5	379.9
162.5°	348.3	354.2	360.1	364.1	367.0	370.3	370.3	369.7
165°	340.4	344.2	348.7	351.9	354.4	356.9	356.3	356.3
167.5°	333.5	336.4	339.0	341.3	342.4	344.2	343.6	343.6
170°	328.9	330.8	333.4	334.7	335.3	336.6	335.9	335.9
172.5°	324.8	326.2	328.2	329.1	329.1	330.4	329.3	328.8
175°	319.4	320.0	321.2	321.2	321.2	321.9	321.2	320.7
177.5°	315.9	316.4	316.9	316.9	316.4	316.9	315.9	315.9
180°	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9

(END OF REPORT)